Electrical Apparatus-making for Beginners. By A. V. Ballhatchet. Pp. 164. (London: P. Marshall and Co., n.d.) Price 2*s*. net.

THE author has provided, at a moderate price, a very useful little book, which should do much to encourage the beginner to construct simple electrical apparatus with which to make a number of instructive experiments. The book is illustrated with a number of photographs of the apparatus described, which the author has himself constructed. In addition, there are good working drawings and diagrams of connections where these are helpful. The real utility and educational value of work of this kind to the beginner cannot be insisted upon too often. He has read of and perhaps seen professionally made apparatus, and he naturally supposes that nothing within his constructive power can be any good, and more especially is this the case if he is not already fairly accomplished in the use of tools. While his earlier efforts may not be much use to anybody else they are of immense value to him—that is, if he has any perseverance. He may gradually come to learn that rough-looking apparatus may really work up to a point well, and so begin to acquire that confidence in himself which is essential when, at a later stage, he has original ideas. He may then either make preliminary rough experiments to see if, with better work, they promise to succeed, or if he has become a good manipulator he may have discovered that he can carry out his own ideas quickly and with sufficiently good work in the essential parts to get better results than he could hope for if he depended entirely upon others to put his ideas into form.

C. V. B.

Guida allo Studio della Storia delle Matematiche. By Prof. Gino Loria. Pp. xvi+228. (Milano: Ulrico Hoepli, 1916.) Lire 3.

THE plan of this work is rather unusual, but quite good. The first part gives, among other things, references to first-rate works on history and historical method in general (*e.g.* Bernheim, Lavisse et Rambaud, Merz), besides works on the history of mathematics in particular. We also find here summaries of the contents of the more important journals dealing with mathematical history. The second part is more specialised; there are sections on manuscripts, biographies, editions of collected works, mathematical correspondence, bibliography, catalogues, and so on. There is a name-index for each part separately. The amount of information given is really remarkable, and it is well up to date; the author, too, has not shrunk from the disagreeable duty of pointing out works (such as those of Montucla, and even of M. Cantor) which must be used with caution.

There are a good many misprints, especially in English names and words (Raleigh, for instance, *passim*); we even find our familiar friend Bernouilli (p. 166); but few, if any, are serious, and the wonder is that they are not more numerous than they are.

G. B. M.

LETTERS TO THE EDITOR.

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of* NATURE. *No notice is taken of anonymous communications.*]

A Suggestion with regard to Genera Splitting.

INDIVIDUAL systematic botanists and zoologists differ much in the principles which guide them with regard to the "splitting," or "lumping," of genera. Much can be said on both sides. The splitting into smaller genera of a genus overloaded with species should help to show the more intimate relationships of the species to each other. On the other hand, if the new genera have names unlike the original genus, the kinship of all the species originally included in the one genus is, to the casual observer, more or less masked. When a genus is very small in species a better grasp of their relationship with each other is probably gained by retaining them all under one generic name, even though morphological characters may well warrant placing each species in a distinct genus. In botany in Australia several hundred species are included in the genera Eucalyptus and Acacia. Unquestionably a better grasp of the kinship of the individual species is obtained by leaving all in the two genera named rather than in instituting new genera for various groups, but it is equally certain that some day a "splitting" systematist will erect new genera, which will not, I believe, help us in "memorising" the groups as wholes.

Some time ago, in discussing this question with my friend, Mr. G. M. Matthews, whose valuable work on the "Birds of Australia" is now in the press, I suggested that the letters of the Greek alphabet should be used, when genera splitting is decided on, as a prefix to the original generic name, thereby showing the common relationship of all the species to each other. May I make this suggestion here in your columns, and add, further, that the relationship would be still more clearly shown if the Greek symbol were used rather than a "translation" into English? The original genus (*i.e.* the "split" part, containing the original type species) would be best represented as α, though difficulty would arise in thus altering the original generic name; so, unless zoologists and botanists could come to some international agreement on the matter, it would probably be necessary to use no prefix in this portion of the "split," but add (*S.S.*=*sensu stricto*) to the simple generic name. The "splits" could then be β, γ, etc. To take the genus Eucalyptus, for example, we should have α-Eucalyptus, or Eucalyptus (*S.S.*), β-Eucalyptus, γ-Eucalyptus, etc. Such a method of splitting would be convenient and handy, would still show the broader relationships of the species, and would not interfere with those systematists who disapprove of splitting, since these need only drop the prefix.

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The Place of Science in Education.

THE question as to whether modern education should be classical and literary, or scientific, is one which apparently, in certain high quarters, is still controverted. This matter, once said John Stuart Mill, is very much like a dispute "whether a tailor should make coats or trousers." Replying in the philosopher's own words, "Why not both? Can anything deserve the name of a good education which does not include literature and science too? If there were no

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more to be said than that science teaches us to think and literary education to express our thoughts, do we not require both?" Most reasonable people would probably be prepared to concede the soundness of Mill's opinion. Is not therefore the educational system of a country which concerns itself in no way as to the status of science altogether imperfect and lopsided? The educational value of science was excellently assessed nearly half a century ago by the distinguished author of the words above quoted, in the following terms (*vide* Rectorial Address, St. Andrews University, 1867):—

"But it is time to speak of the uses of Scientific Instruction: or rather its indispensable necessity, for it is recommended by every consideration which pleads for any high order of intellectual education at all.

"The most obvious part of the value of scientific instruction, the mere information that it gives, speaks for itself. We are born into a world which we have not made—a world whose phenomena take place according to fixed laws, of which we do not bring any knowledge into the world with us. In such a world we are appointed to live, and in it all our work is to be done. Our whole working power depends on knowing the laws of the world—in other words, the properties of the things we have to work with, and to work among, and to work upon. . . .

"It is surely no small part of education to put us in intelligent possession of the most important and most universally interesting facts of the universe, so that the world which surrounds us may not be a sealed book to us, uninteresting because unintelligible. This, however, is but the simplest and most obvious part of the utility of science, and the part which, if neglected in youth, may be the most easily made up for afterwards. It is more important to understand the value of scientific instruction as a training and disciplining process to fit the intellect for the proper work of a human being."

Since Mill's day there have been many realisations and warnings that those in charge of the country's affairs were not maintaining its position in the international scale of scientific efficiency, the probable contingent future effects being at the same time pointed out. The Government have no doubt always listened respectfully to the representations, emanating from conviction, that have from time to time been made to them, but, having no thoroughly intelligent apprehension, the central fact remains—they have done nothing. The country, in a matter vital to its welfare, has been allowed to fall back while parliamentary gentlemen have occupied themselves, and the minds of the majority of their fellow-countrymen, with domestic questions of only accessory, not essential, importance.

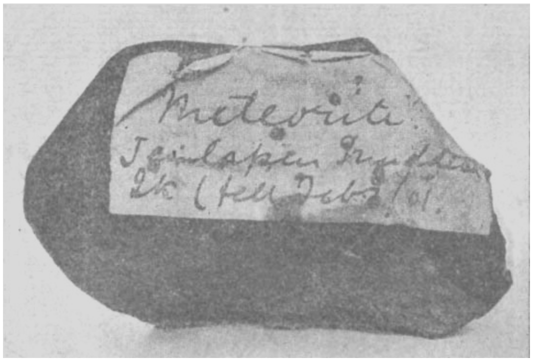
How can matters be remedied? In what possible way can progress in the future be ensured? Experience does not readily incline one to the belief that any number of memorials, deputations, or advisory boards will be able adequately to effect the greatly desired result. Would it not be an excellent thing and solve many difficulties were there a body of scientific opinion in the House of Commons? An old teaching of Bagehot's was that any notion, or creed, which could get a decent number of English members to stand up for it, might be a false, and, indeed, pernicious, opinion, but it was felt by nearly all Englishmen to be at all events possible—an opinion within the intellectual sphere, and to be reckoned with. And it was an immense achievement. This, of course, means that scientific men would require to stand as candidates for election to Parliament. The assertion that in general their very specialised scientific training would disqualify them from being useful participators in the ordinary business of the Legislature appears quite unfounded.

To the writer the foregoing suggests itself as one likely solution of our difficulty. The country, in an educational sense, appears to have got somewhat out of adjustment with external national requirement. Equilibrium with environment is, perhaps, not always easy of maintenance, but it is worth continually striving after, so far as is humanly possible; for, without this, insidiously begin the multifarious processes of destruction compassing an end which it is never possible precisely to define. D. BALSILLIE.

St. Andrews, April 30.

A Mysterious Meteorite.

THE photograph here reproduced is of a meteoritic stone which was recently obtained by Mr. A. S. Kennard from a curio-dealer in Beckenham, Kent. All that could be discovered of its history was that it had been purchased at the sale of the effects of a local auctioneer named Harris. Hitherto also all efforts definitely to fix the locality given on the label have failed. Any help in the solution of the mystery will be welcomed by me. G. T. PRIOR.



Natural History Museum, South Kensington.

THE RELIEF OF THE SHACKLETON ANTARCTIC EXPEDITION.

AS the middle of May has been reached without news of the *Endurance*, action for the relief of Sir Ernest Shackleton's expedition has to be taken on the expectation that there will be no further news this season. It is possible that the *Endurance*, damaged and short of coal, may still be slowly working her way northward, and that any day we may hear of her return to South Georgia with perhaps the whole of the expedition on board. But such a solution of the difficulty must be regarded as highly improbable, and the relief expedition must be prepared with the information already available.

The more detailed news received from the *Aurora* encourages the hope that she can be refitted in New Zealand and entrusted with the relief work necessary on the Australasian side of the Antarctic. If so, the problem there is comparatively simple. The main anxiety in regard to that section of the expedition is due to the fact that when the *Aurora* was blown out to sea there had been no news of the depôt-laying parties for two months. Three sledge parties had started at the end of January, 1915, from the *Discovery* Hut at the southern end of Macmurdo Sound. Some depôts were successfully laid on the Ice Barrier.

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